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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,617	11/29/2001	Joseph Pugach		7397

7590  
William L. Kraye  
1771 Helen Drive  
Pittsburgh, PA 15216

01/23/2004

EXAMINER

WRIGHT, WILLIAM G

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/997,617

Applicant(s)

PUGACH ET AL.

Examiner

William G. Wright SR.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16, 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-13, 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Falke et al. '789 or Falke et al. '217 each in view of Haruta et al. '327.

Falke '787 teaches a gold iron catalyst for oxidizing carbon monoxide. Carbon monoxide is taught to be found in a large number of industrial processes, at column 1 line 11 et seq. The teaching of a process temperature of below 100°C is found at column 3 line 8 et seq. It is taught at column 4 line 48 et seq. that for the instantly claimed type reaction the preferred catalysts are gold and iron. Grinding as a process parameter is taught at column 5 line 14 and in claim 9 line 38 et seq. The teaching of the inorganic iron salt being iron nitrate is found at column 6 line 29 et seq. The teaching of air (oxygen) and carbon monoxide as the gas being used is found at column 8 line 60 et seq. The catalyst particle size being below about 2

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millimeters is found in claim 9 line 1 of column 12. Falke '217 teaches iron and gold catalysts for oxidizing carbon monoxide at column 1 line 7 et seq. The teaching of the using of iron nitrate is found in column 4 line 34 et seq. along with water being the preferred solvent. The temperatures at which the precipitation is conducted are taught at column 5 line 49 et seq. Calcination is taught at column 6 line 1 et seq. and at claim 21.

The primary references each fail to teach the specific use of a claimed pH range and the claimed feature of gradually combining the precursor gold and iron solutions.

Haruta teaches the catalytic utility of oxidation catalyst at claim 1 line 10 and at column 7 line 40 et seq. The teaching of dropwise addition and a specific pH during the addition of these solutions is found at column 2 line 27 et seq. The claims also teach the pH range (claim 1), dropwise addition (claim 5), washing and heating at claim 12.

A practitioner would be motivated by the teachings of Haruta using a similar catalyst for a similar utility made by a similar method to combine the pH and solution addition features of Haruta with each primary reference. Falke '787 teaches at column 5 the particulars of the solution addition to include the use of a base and various methods of applying the solutions to each other and to the support. Falke '217 teaches at columns 4 and 5 the

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particulars of the solution addition to include application in succession, the use of a base and various methods of solution addition. It would be obvious to combine the features found in Haruta with the motivation to combine the solutions in various ways with base addition provided in the primary reference to Falke.

The applicants argue that the Falke et al. references '787 and '217 are both to a supported catalyst. This argument is not persuasive as the teachings in the primary references to the catalyst of those references being supported does not distinguish over the catalyst of the instant file. The instant specification at page 3 lines 9 and 10 clearly states that the instant claimed catalyst does not require a separate solid or porous support. The instant "comprising" claims do not forbid a carrier or support nor do they address the per se absence or presence of a support. The applicants further argue that the instant catalyst precursors are added to each other gradually and that the pH is maintained between 7 and 9. Haruta et al. '327 teaches the use of a pH of 7 to 11 in the catalyst production at column 2 line 40 et seq. The Falke et al. '217 reference teaches at column 2 line 4 et seq. the special method of production that includes co-precipitation of the constituents. This reference goes on to teach that carrier catalysts prove ineffective for carbon

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monoxide oxidation at temperature below about 50°C. Thus the reference draws the conclusion that carrier catalysts are not suitable for the stated purpose. The Examiner's position on these teachings is that both supported and non-supported catalysts are used for the claimed utility are known. It would then have to be shown by the use of data that the instant catalysts differ patentably from the supported or unsupported catalysts found in the references.

The applicants argue that the gas treated by their catalysts contains at least 65% hydrogen. The percent may be weight percent or mole percent and thus the amount of hydrogen may vary quite a bit from one value to the other. This parameter should be more well defined to convey the amount of hydrogen the applicants intend to be present. The amount of hydrogen present is so undefined as to not be able to convey the meaning of a hydrogen component limitation, thus the amount of water production may be not a factor.

The applicants argue that none of the applied references addresses the oxidation of carbon monoxide and a mixture of gases comprising 65% hydrogen. The instant claims are directed to a catalyst for the oxidation of carbon monoxide with a broadly defined presence of hydrogen gas in the gas composition. The references all teach the same catalyst composition for the oxidation of carbon monoxide, it is not shown how the presence of

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hydrogen has anything whatsoever to do with the oxidation of carbon monoxide. The instant claims 16 and 17 do teach the hydrogen present in the feed gas is substantially unoxidized. The references teach the same catalyst to oxidize carbon monoxide regardless of what else is present. And it will have to be shown how the catalyst differs in its composition and performance in the oxidation of carbon monoxide to distinguish over the art. It is also not taught how using of the catalyst for the long periods of time such as 24 hours or longer is of any meaning in the determination of patentability. Nothing in the applied references would teach the use of 24 hours to be novel or unobvious as used in the instant claims.

Applicants' arguments filed October 6, 2003 have been fully considered but they are not deemed to be persuasive.

The applicants' arguments have been responded to in the body of the final rejection above.

**THIS ACTION IS MADE FINAL.** Applicants are reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a). The practice of automatically extending the shortened statutory period an additional month upon the filing of a timely first response to a final rejection has been discontinued by the Office. See 1021 TMOG 35.

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A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

WGC  
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STEVEN BOS  
PRIMARY EXAMINER  
GROUP 1100

SJB